What is claimed is:

1. A composite material comprising:
   (a) a particulate phase comprising a plurality of one or more functional particles; and
   (b) a single-phase ceramic matrix phase comprising at least one low-temperature frit glass;
   wherein the particulate phase: (i) is at least substantially entrapped within the ceramic phase, and (ii) exhibits limited or no inter-particle connectivity.

2. The composite material of claim 1, wherein the ceramic matrix phase exhibits three-dimensional connectivity.

3. The composite material of claim 2, wherein the material is a 0-3 composite.

4. The composite material of claim 1, wherein the one or more functional particles are selected from materials suitable to provide a desired electronic component.

5. The composite material of claim 4, wherein the functional particle comprises a ruthenium-based resistor material, a dielectric, or ferromagnetic inductive material.

6. The composite material of claim 1, wherein the ceramic matrix phase further comprises at least one sol-gel precursor.

7. The composite material of claim 6, wherein the sol-gel precursor comprises at least one material suitable to bind the matrix phase prior to laser processing and/or act as a quenching agent during laser processing.

8. The composite material according to claim 6, wherein the sol-gel precursor is a metal alkoxide.

9. The composite material of claim 1, wherein the low-temperature frit glass comprises at least one material capable of melting under laser processing conditions.

10. The composite material of claim 9, wherein the low-temperature frit glass material comprises lead.

11. The composite material according to claim 1, wherein the particulate phase further comprises at least one filler particle.

12. The composite material of claim 1, wherein the ceramic matrix phase further comprises at least one high temperature ceramic material.

13. The composite material of claim 12, wherein the at least one high temperature ceramic material raises the melting point of the low temperature frit glass.

14. The composite material of claim 11, wherein the filler particle comprises a compatible low-temperature frit glass molecular precursor.

15. The composite material of claim 1, wherein the composite material is configured to be a ceramic composite film.

16. The composite material of claim 15, wherein the film has a thickness of from approximately 1 to approximately 50 micrometers.

17. The composite material of claim 15, wherein the film is suitable for depositions on to a low-temperature substrate.

18. The composite material of claim 15, wherein the ceramic element is an electronic component.

19. The composite material of claim 18, wherein the electronic component is a resistor, capacitor, or inductor.

20. A paste composition for forming a ceramic composite comprising:
a) at least one solvent;
b) at least one optional binder;
c) at least one low-temperature frit glass; and
d) a plurality of one or more functional particles;
wherein the paste is capable of forming a composite upon low-temperature processing or laser processing.

21. The paste composition of claim 20, wherein the paste is capable of forming a "0-3 composite" ceramic element .

22. The paste composition of claim 20, wherein the paste is capable of being written or deposited onto a low temperature substrate by a miniaturized pen.

23. The paste composition of claim 20, wherein the solvent has a low vapor pressure and a low boiling point.

24. The paste composition of claim 23 wherein the solvent is selected from the group consisting of terpineol, dimethyl acetimide, ethylene glycol, a glyme based solvent, alkanol, and butyl acetate.

25. The paste composition of claim 20, wherein the binder comprises at least one sol-gel precursor.

26. The paste composition of claim 25, wherein the sol-gel precursor comprises at least one material suitable to bind the matrix phase prior to laser processing and/or act as a quenching agent during laser processing.

27. The paste composition of claim 25, wherein the sol-gel precursor is a metal alkoxide.

28. The paste composition of claim 20, wherein the low-temperature frit glass comprises at least one material capable of melting under laser processing conditions.

29. The paste composition of claim 20, wherein the low-temperature glass comprises lead.

30. The paste composition of claim 20, wherein the at least one functional particle alters a physical property of the frit glass.

31. The paste composition of claim 30, wherein the at least one functional particle raises the melting point of the glass.

32. The paste composition of claim 31, wherein the functional particle is selected from the group consisting of a secondary particle, molecular precursor, and a frit glass modifier

33. The paste composition of claim 20, wherein the functional particles are selected from materials suitable to provide a desired electronic component.

34. The paste composition of claim 33, wherein the functional particle comprises a ruthenium-based resistor material, a dielectric capacitance material, or a ferromagnetic based inductor material.

35. A "0-3 composite" ceramic element comprising:
    a) a functional particle; and
    b) a single-phase ceramic matrix, wherein the ceramic matrix is comprised of an optional sol-gel precursor and a low-temperature frit glass.

36. The ceramic element of claim 35, wherein the ceramic element is a ceramic composite film.

37. The ceramic element of claim 35, wherein the functional particle is selected from the group consisting of a secondary particle, molecular precursor, and a frit glass modifier.

38. The ceramic element of claim 35, wherein the sol-gel precursor comprises a metal alkoxide.

39. The ceramic element of claim 35, wherein the low-temperature frit glass comprises lead.

40. A method for providing improved matrix consolidation of a 0-3 composite comprises:
    (a) providing a paste composition suitable for forming a 0-3 composite, said paste including a low-temperature frit glass ;
    (b) subjecting the paste composition to conditions effective to provide a composite.

41. The method of claim 41 wherein the conditions of (b) are suitable for melting the low-temperature glass.

42. The method of claim 42 wherein the conditions of (b) are low temperature conditions.

43. The method of claim 42, wherein the conditions of (b) comprise laser processing.

44. The method of claim 41, wherein the paste further includes a secondary particle or molecular precursor.

45. In a method for making a ceramic material including the laser processing of a sol-gel precursor, wherein the improvement comprises the inclusion of a low-temperature glass with the sol-gel precursor.